NOTES ON AUSTRALIAN DIPTERA. No. ix.

By J. R. MALLOCH. (Communicated by Dr. E. W. Ferguson.)

> (Six Text-figures.) [Read 27th October, 1926.]

I present in this paper descriptions of some new, and some previously described, genera and species of Australian flies. There is not sufficient material available yet to permit publication of revisions of the families Ephydridae and Chloropidae, and there is a paucity of material in Helomyzidae and Neottiophilidae. In the Helomyzidae I expect there are many more genera and species yet to be discovered, but possibly the genus *Tapeigaster* may be the only representative of the small family to which it belongs, and the status of which has created some difference of opinion amongst specialists. I have briefly discussed the relationships of this genus in the present paper.

I have delayed presenting a generic synopsis of the family Sapromyzidae pending the receipt of some additional material from Dr. E. W. Ferguson, and I am inclined to believe that there must be still a large number of species of this family unknown to me, as new forms are constantly occurring in any moderate sized accession of material reaching me.

Unfortunately several of the species described in this paper are represented by specimens from the British Museum and the United States National Museum, so that the actual type specimens will thus not be available in Australia to students of the order. It is hoped, however, that, later, specimens of those species will become available for deposition in some Australian museum. I have made the descriptions as comprehensive as possible so that it will undoubtedly be possible to identify the species referred to without an examination of the type specimens, unless some very closely related species yet unknown to me should occur in Australia. When the wing markings are intricate and a word description might possibly be difficult to understand I have figured the wing, but one must understand that there is a certain amount of variation always present in the markings of such forms, more especially in those that have the wings most intricately marked, and allowance must be made for this in identifications.

Family Ephydridae.

Genus PARALIMNA LOEW.

I presented a key to the three Australian species of this genus known to me in Part vii of this series of papers, and now describe a fourth Australian species.

PARALIMNA STIRLINGI, n. sp.

Male.—Black, opaque, densely white dusted. From almost completely whitishgrey dusted, only a faint brownish mark in front of ocelli; palpi grey dusted. Thorax with indications of dark dots at bases of setulae quite evident, and larger

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Frons bristled as in *millepuncta*, the two setulae between orbital bristle and eye present; genal bristle weak; lower bristle of facial pair short. Each humerus with one long bristle and a few short setulae; scutellum flattened, the four long bristles subequal. Fore femur with a rather wide break at middle of the posteroventral series of bristles; legs otherwise as in *millepuncta*.

Length, 4 mm.

Type, and 3 male paratypes, Alexandria, N. Australia, 13-20.3.1906 (W. Stalker).

Type in British Museum.

This species is named in honour of my uncle Joseph Stirling, of Childers, N. Queensland, who has taken an active interest in the agriculture of the colony for the past 60 years.

The species will run to *millepuncta* in my key, but there is no very pronounced break in the posteroventral series of bristles on the fore femur in that species, and the frons and dorsum of head are conspicuously spotted with dark brown, as is also the upper part of mesopleura, which is not the case in *stirlingi*.

Family Chloropidae.

Subfamily BOTANOBIINAE.

Genus THYRIDULA Becker.

I have already described two species of this genus from Australia. Both of these have the scutellum conspicuously narrowed at apex, the general shape being isosceles triangular, but in the present species the scutellum is broadly rounded at apex (Text-fig. 1). Another distinction between the new species and the two above referred to lies in the rugose pleura of the former, the others having the pleura smooth.

THYRIDULA RUGOSA, n. sp. Text-fig. 1.

Female.—Testaceous yellow, dorsum of thorax more brownish, the mesonotum with traces of four or six greyish vittae; apex of scutellum yellowish. Legs reddish testaceous, tibiae with a dark central annulus, faint on fore pair; tarsi yellowish. Wings clear, veins pale, dark at junction of second and third.

Frons quite densely hairy; face without a central carina; proboscis geniculated; arista pubescent. Thorax with many piliferous punctures on dorsum; disc of scutellum rugose, the outline and marginal armature as in Text-figure 1; mesopleura and sternopleura distinctly rugose. Abdomen short, but little longer than the scutellum. Legs stout, hind pair notably so. Outer cross-vein oblique.

Length, 3 mm.

Type, Cairns, N. Queensland (J. F. Illingworth). Type in U. S. National Museum.

> Family Agromyzidae. Subfamily MILICHINAE. Genus MILICHIA Meigen.

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Closely related to *Milichiella*, having the same shape of wing, wide at base and narrowed at apex, with the same deep oblique costal incision before apex of first vein. It has also on each orbit two strong bristles on upper half, the anterior one directed straight forward, and the posterior one curved backward. In *Desmometopa*, *Hypaspistomyia*, and *Stomosis* these bristles (2 or 3) are directed obliquely outward over the eye. From *Milichiella* the present genus is distinguished by the lack of an angular incision in the hind margin of eye near middle.

MILICHIA PISCIVORA, n. sp.

Male and female.—Black, subopaque, the thorax and abdomen densely dark grey dusted, the frons and face in male rather densely white dusted; abdomen in male with a large rather faint brownish mark on each side of each tergite except fourth. Wings hyaline. Halteres fuscous.

Frons of male about one-fourth of the head width at vertex, much narrowed anteriorly; of female, one-third of the head width at vertex and but little narrowed anteriorly, each orbit with but two strong bristles, one anteriorly directed above middle and the other backwardly directed between it and vertex; postverticals convergent; ocellars long; interfrontalia with the usual two series of bristles, the anterior one on each side strong, the orbits with short setulae anteriorly; antennae short, third segment rounded; arista subnude; cheek linear, marginal bristles long, increasing in strength to vibrissae; proboscis stout; palpi broad. Thorax with one strong and one weak pair of dorsocentrals and one strong pair of acrostichals in front of scutellum; mesopleura bare; sternopleura with three bristles. First and fourth visible tergites elongated, the former in male with short but distinct erect fine curled hairs on sides, fourth with a few short apical bristles. Legs normal. First posterior cell of wing narrowed at apex.

Length, 3-3.5 mm.

Type, male, and four male paratypes, Townsville, Queensland, 24.2.13, "breeding in decaying fish". Allotype, Townsville, Queensland (F. H. Taylor). Paratypes, two females, Sydney, N.S.W., 11.2.24.

Family Ortalidae.

It is not my intention to deal *in extenso* with the members of this family, as I understand this has been undertaken by Professor Bezzi. I have before me, however, a very exceptional species which, in habitus and coloration, so closely resembles some species in the family Clusioididae that I feel it is incumbent upon me to deal with it at this time. I cannot find any description that appears to fit the species so describe it as new.

Genus Clusiosoma, nov.

Generic characters.—Postverticals much longer than the small ocellars, convergent; four strong verticals; frons not more than one-fifth of the head width, each orbit with four bristles, the upper two backwardly curved, the lower two incurved, uppermost one short and weak, about in line with anterior ocellus, the second strongest of all; third antennal segment about twice as long as its greatest width, tapered apically; arista loosely plumose; face subvertical, slightly concave; L

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Length, 3-3.5 mm.

Type, male, and four male paratypes, Townsville, Queensland, 24.2.13, "breeding in decaying fish". Allotype, Townsville, Queensland (F. H. Taylor). Paratypes, two females, Sydney, N.S.W., 11.2.24.

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Genus Clusiosoma, nov.

Generic characters.—Postverticals much longer than the small ocellars, convergent; four strong verticals; frons not more than one-fifth of the head width, each orbit with four bristles, the upper two backwardly curved, the lower two incurved, uppermost one short and weak, about in line with anterior ocellus, the second strongest of all; third antennal segment about twice as long as its greatest width, tapered apically; arista loosely plumose; face subvertical, slightly concave; L

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MILICHIA PISCIVORA, n. sp.

Male and female.—Black, subopaque, the thorax and abdomen densely dark grey dusted, the frons and face in male rather densely white dusted; abdomen in male with a large rather faint brownish mark on each side of each tergite except fourth. Wings hyaline. Halteres fuscous.

Frons of male about one-fourth of the head width at vertex, much narrowed anteriorly; of female, one-third of the head width at vertex and but little narrowed anteriorly, each orbit with but two strong bristles, one anteriorly directed above middle and the other backwardly directed between it and vertex; postverticals convergent; ocellars long; interfrontalia with the usual two series of bristles, the anterior one on each side strong, the orbits with short setulae anteriorly; antennae short, third segment rounded; arista subnude; cheek linear, marginal bristles long, increasing in strength to vibrissae; proboscis stout; palpi broad. Thorax with one strong and one weak pair of dorsocentrals and one strong pair of acrostichals in front of scutellum; mesopleura bare; sternopleura with three bristles. First and fourth visible tergites elongated, the former in male with short but distinct erect fine curled hairs on sides, fourth with a few short apical bristles. Legs normal. First posterior cell of wing narrowed at apex.

Length, 3-3.5 mm.

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Genus Clusiosoma, nov.

Generic characters.—Postverticals much longer than the small ocellars, convergent; four strong verticals; frons not more than one-fifth of the head width, each orbit with four bristles, the upper two backwardly curved, the lower two incurved, uppermost one short and weak, about in line with anterior ocellus, the second strongest of all; third antennal segment about twice as long as its greatest width, tapered apically; arista loosely plumose; face subvertical, slightly concave; L

vibrissae absent. Thorax with a strong humeral, one pair of dorsocentrals, a pair of prescutellar acrostichals, two mesopleurals, one sternopleural, no propleural, and the centre of propleura fine haired; scutellum subtriangular, slightly flattened above, with six marginal bristles, the median pair very short. Hypopygium of male small, with the usual coiled process; female ovipositor tapered to a tubelike apex. First, third, and fifth veins setulose above, third and fourth setulose below; anal cell produced in the form of a slender point at apex behind. Fore femur setulose below in both sexes; preapical tibial bristle lacking.

Genotype, the following species.

CLUSIOSOMA SEMIFUSCA, n. sp.

Male and female.—Head clay-yellow, second antennal segment and ocellar spot black, a dark streak on centre of male frons on upper half, face and cheeks whitish tomentose. Thoracic dorsum reddish testaceous, humeri whitish, a dark vitta along mesial or inner margin of each humerus which extends to base of wing, and four narrow dark discal partial vittae behind suture; pleura yellowishclay coloured, with a dark vitta along middle; scutellum dark on disc; postnotum brown. Abdomen brownish above, paler below. Legs yellowish testaceous. Wings greyish at bases, brown or fuscous from apex of auxiliary vein to tip, paler posteriorly. Halteres testaceous yellow.

Postocular setulae black on upper half; lower occiput with one bristle. Thoracic dorsum with decumbent dark setulae. Fore femur in male much thicker than the other pairs, with black ventral bristles which are short on anteroventral surface and become long and strong apically on posteroventral surface; female with a few posteroventral bristles on fore femur; fore tibia in male dilated and downy at apex, the production on ventral side; hind femur with a few short weak preapical anteroventral setulae; mid tibia with one or two short weak preapical anteroventral setulae; hind tibia with one or two anterodorsal and anteroventral setulae. Inner cross-vein of wing a little beyond middle of discal cell; first posterior cell not narrowed apically.

Length, 4.5-5.5 mm.

Type, male, allotype, and one male paratype, Cairns, N. Queensland (Illingworth).

Type in United States National Museum.

This genus would appear to find its best affinities in the Cephalinae, but it agrees with no genus known to me.

Family Sapromyzidae.

I present in this paper the descriptions of some genera and species which were lent to me for description by Dr. Aldrich of the United States National Museum. The types are in that institution.

STEGANOPSIS ANNULIPES, n. sp. Text-fig. 2.

Female.—Black, shining, the entire body in type specimen greasy, so that it is not possible to say if there are markings present, though the tip of the scutellum and parts of the pleura are yellowish, and the latter bear evidences of having dark dots. Antennae yellowish, third segment largely fuscous. Legs black, fore femora with a broad testaceous median band; fore tibia with a narrow subbasal band and a broader one beyond middle, basal segment of fore tarsus, and all of mid and hind pairs, pale yellowish testaceous. Wings fuscous, paler behind, marked as in Text-figure 2. Halteres fuscous.

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Female.—Black, shining, the entire body in type specimen greasy, so that it is not possible to say if there are markings present, though the tip of the scutellum and parts of the pleura are yellowish, and the latter bear evidences of having dark dots. Antennae yellowish, third segment largely fuscous. Legs black, fore femora with a broad testaceous median band; fore tibia with a narrow subbasal band and a broader one beyond middle, basal segment of fore tarsus, and all of mid and hind pairs, pale yellowish testaceous. Wings fuscous, paler behind, marked as in Text-figure 2. Halteres fuscous.

vibrissae absent. Thorax with a strong humeral, one pair of dorsocentrals, a pair of prescutellar acrostichals, two mesopleurals, one sternopleural, no propleural, and the centre of propleura fine haired; scutellum subtriangular, slightly flattened above, with six marginal bristles, the median pair very short. Hypopygium of male small, with the usual coiled process; female ovipositor tapered to a tubelike apex. First, third, and fifth veins setulose above, third and fourth setulose below; anal cell produced in the form of a slender point at apex behind. Fore femur setulose below in both sexes; preapical tibial bristle lacking.

Genotype, the following species.

CLUSIOSOMA SEMIFUSCA, n. sp.

Male and female.—Head clay-yellow, second antennal segment and ocellar spot black, a dark streak on centre of male frons on upper half, face and cheeks whitish tomentose. Thoracic dorsum reddish testaceous, humeri whitish, a dark vitta along mesial or inner margin of each humerus which extends to base of wing, and four narrow dark discal partial vittae behind suture; pleura yellowishclay coloured, with a dark vitta along middle; scutellum dark on disc; postnotum brown. Abdomen brownish above, paler below. Legs yellowish testaceous. Wings greyish at bases, brown or fuscous from apex of auxiliary vein to tip, paler posteriorly. Halteres testaceous yellow.

Postocular setulae black on upper half; lower occiput with one bristle. Thoracic dorsum with decumbent dark setulae. Fore femur in male much thicker than the other pairs, with black ventral bristles which are short on anteroventral surface and become long and strong apically on posteroventral surface; female with a few posteroventral bristles on fore femur; fore tibia in male dilated and downy at apex, the production on ventral side; hind femur with a few short weak preapical anteroventral setulae; mid tibia with one or two short weak preapical anteroventral setulae; hind tibia with one or two anterodorsal and anteroventral setulae. Inner cross-vein of wing a little beyond middle of discal cell; first posterior cell not narrowed apically.

Length, 4.5-5.5 mm.

Type, male, allotype, and one male paratype, Cairns, N. Queensland (Illingworth).

Type in United States National Museum.

This genus would appear to find its best affinities in the Cephalinae, but it agrees with no genus known to me.

Family Sapromyzidae.

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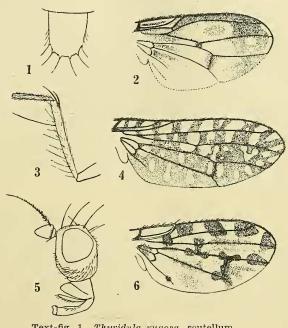
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Length, 3.5 mm.

Type, Gordonvale, N. Queensland (Edmund Jarvis).

This species differs from any other in the genus known to me, by the annulate legs, the wing markings, and, if the thorax is unmarked on dorsum, it may be readily distinguished from the other described Australian species by that character also.



Text-fig. 1. Thyridula rugosa, scutellum. Text-fig. 2. Steganopsis annulipes, wing.

- Text-fig. 3. Amphicyphus reticulatus, hind tibia of male.
- Text-fig. 4. Amphicyphus reticulatus, wing.
- Text-fig. 5. Trigonometopus fuscifrons, head.
- Text-fig. 6. Huttonomyia maculipennis, wing.

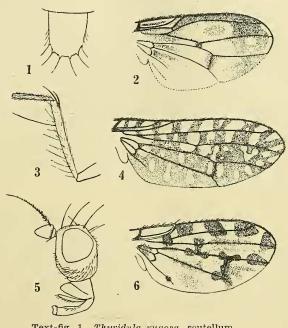
Genus Amphicyphus de Meijere.

Generic characters.—Anterior pair of fronto-orbitals directed inward; basal antennal segment short, bare below, third tapered apically, less than three times as long as its basal width; arista short-haired; parafacial with some fine erect hairs at middle, lower part of inner margin of parafacial with some long bristly hairs; clypeus prominent and well developed; face slightly convex; palpi slender. Thorax with one pair of strong presutural dorsocentrals, the specimen so much damaged that it is impossible to decide if there are three or four pairs behind the suture; mesopleura with long hairs, amongst which one bristle is evident; sternopleura similarly haired, the two bristles weak; scutellum thick, slightly impressed on each side near apex, and at tip between the bristles, so that the apical pair Postverticals rather large, ocellars very small, anterior incurved orbitals as large as upper pair; arista plumose, hairs longest on upper side; antennae normal. Thorax with two pairs of prescutellar dorsocentrals. Fore tarsus rather thick, but not conspicuously dilated.

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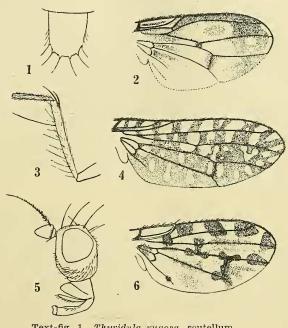
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AMPHICYPHUS RETICULATUS (Dol.). Text-figs. 3, 4.

Male.—Yellowish testaceous, slightly shining, with greyish dusting, especially on dorsum of thorax. Frontal orbits with brown spots at bases of the bristles; ocellar spot brown; a brown spot at middle of each parafacial, and another at lower angle of eye; face with six similar spots, three above middle, and three on lower margin; arista dark-haired. Thorax and scutellum brownish, irregularly spotted. Abdomen with a dark dorsocentral stripe basally, which is slightly divided centrally, and a dark dot at base of each of the stronger hairs. Femora with a brownish band beyond middle; tibiae each with a brown spot or band near base, and a band beyond middle. Wing brown, with many hyaline spots (Text-fig. 4).

Frons about 1.5 as wide as long, the orbits not differentiated, ocellar triangle and bases of the orbital and vertical bristles slightly raised; postverticals convergent; three verticals on each side; some long hairs on orbits laterad of the anterior incurved bristles; proboscis stout apically. Thoracic hairs long and erect. Abdomen ovate; hypopygium small. Fore femur without an anteroventral comb, the posteroventral bristles long and fine; mid femur with fine hair-like anteroventral and posteroventral bristles; hind femur with similar anteroventral bristles; dorsal hairs on fore and hind tibiae long and setulose.

Length, 3.25 mm.

Cairns, N. Queensland (Illingworth).

This genus is readily distinguished from any other known to me by the very peculiar apical pair of curved ventral bristles on the hind tibia. This may be a male character, but there are other characters which distinguish the genus from any other having the anterior fronto-orbital bristles incurved that must be found in the female, even if that sex lacks the bristles above referred to.

It is unfortunate that several of the new genera and species collected by Dr. Illingworth are represented by single specimens only and that the species must therefore be represented by the types in an American Museum rather than in one in Australia.

Genus TRIGONOMETOPUS Macquart.

This genus is distinguished from its allies by the absence of the presutural intra-alar bristle. Although the head in typical species of the genus is subtriangular in profile, the frons produced in front and the face receding below, in the species before me, and in some Oriental species, the head is not so formed, the face being but little or not at all receding below. In some other respects the species now described differs from typical species of the genus, e.g., in the scarcity of hairs between bases of antennae and eyes, in the situation of the postverticals, which are placed much below the margin of vertex, in the longer ocellar bristles, and the presence of a pair of presutural dorsocentrals and but two pairs of the latter behind suture.

TRIGONOMETOPUS FUSCIFRONS, n. sp. Text-fig. 5.

Male.—Head whitish-yellow, frons and a large mark on each side of occiput greyish fuscous. Thorax fuscous, with greyish dusting, humeri, sutures of pleura, appear to be situated on two slight callosities. Preapical dorsal bristle on fore and hind tibiae slender, longer than metatarsus, and situated about one-third from the apices, mid tibia with a shorter, stouter bristle, hind tibia with two stout curved apical ventral bristles, the upper one shorter than the lower (Text-fig. 3). Wing venation as in *Sapromyza*.

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and a broad margin of scutellum, whitish-yellow. Abdomen yellowish testaceous. Legs testaceous. Wings yellowish hyaline, bases white. Halteres yellow.

Head as in Text-figure 5; arists very short haired. Thorax in type damaged by pin, but with very few dorsal hairs and evidently 1 + 2 dorsocentrals and one pair of prescutellar acrostichals; scutellum flat above, with four equal bristles; mesopleura and sternopleura each with one bristle. Abdomen elongate-ovate. Legs normal, no fore femoral comb. Inner cross-vein close to middle of discal cell; apical section of fourth vein but little longer than preceding section.

Length, 4 mm.

Type, Cairns, N. Queensland (J. F. Illingworth).

Type in U. S. National Museum.

The only species known to me with this coloration of head and scutellum.

HOMONEURA INDECISA, n. sp.

Male.—Tawny yellow, frons except orbits opaque, face a little shining, thorax and abdomen distinctly shining, fourth visible tergite of latter with a rather large black spot on each side, fifth with a much smaller spot. Antennae and palpi yellow. Wings without clouds on any of the veins.

Ocellar bristles shorter than the postverticals; all orbitals long and strong; antennae short, third segment rounded at apex, about 1.5 times as long as wide; arista plumose. Thorax with three pairs of long strong postsutural dorsocentrals, and eight to ten series of short intradorsocentral hairs. Fore femur with an apical comb of short black setulae on anteroventral surface, and four or five long posteroventral bristles; hind femur with one or two preapical anteroventral bristles; all tibiae with distinct preapical dorsal bristle. Inner cross-vein a little before middle of discal cell. Hypopygial forceps subconical, not as large as third antennal segment.

Length, 3.25 mm.

Type, Cairns, N. Queensland (J. F. Illingworth).

This species does not agree in all respects with any of those which have been described by Kertesz as having the abdomen with paired black spots, though it is rather closely similar to some of them in many respects.

I hope to be able to present a synopsis of the species of this genus in my next paper, but, unless there are still many species unknown to me, the genus is not so well represented in Australia as I had expected it would be, there being comparatively few in hand at present as compared with those referred to *Sapromyza* when one considers the relative representations of these genera in the Orient and elsewhere.

Family Helomyzidae.

The members of this family are distinguished by the presence of vibrissae, widely spaced costal bristles, strong preapical dorsal tibial bristle, and complete auxiliary vein and anal cell.

The larvae so far known are found in carrion and in some cases in the nests of rodents, etc.

I have seen but two species from Australia, and, strangely, one of these is identical with one occurring in North America.

Genus PSEUDOLERIA Garrett.

This monobasic genus is readily distinguished by the presence of one or two bristles on the centre of the propleura.

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PSEUDOLERIA PECTINATA (LOEW.).

A dark greyish species, with reddish legs. The male has the apex of the basal segment of fore tarsus produced slightly below.

Length, 4-5 mm.

Locality, Sydney, N.S.W., 23.9.24.

Genus HUTTONOMYIA Malloch.

This genus is a rather aberrant one, as the auxiliary vein is less clearly separated from first than is usually the case in this family. Some authors, no doubt, would incline to place the genus in Geomyzidae, but the preponderance of evidence points to its being a helomyzid. I erected the genus for the reception of two New Zealand species, *scutellata* Hutton, and *hudsoni* Hutton. The Australian species is readily distinguished from both of these by the conspicuously spotted wings.

HUTTONOMYIA MACULIPENNIS, n. sp. Text-fig. 6.

Female.—Head whitish-clay coloured, the frontal orbits, except at anterior extremities, ocellar spot, a mark on each side of interfrontalia laterad of the triangle, and a spot between each antenna and eye, dark brown; antennae fuscous, apex of second segment rufous, base of third white; palpi brown; a dark brown mark on postocular region at middle. Thorax clay-coloured, with three narrow vittae centrally, a spot at base of each dorsocentral bristle, and a broad irregular vitta laterad of the latter, chocolate-brown; sides of scutellum and two elongate marks on its disc dark brown; pleura with a broad dark brown vitta on upper margin and a much paler one on sternopleura. Abdomen grey, with bases of tergites brownish. Legs testaceous, entire fore femora, and apices of mid and hind pairs, dark brown, apices of fore and hind tibiae slightly browned. Wings marked with dark and pale brown as in Text-figure 6. Halteres whitish.

Each orbit with two bristles; arista plumose; cheek at anterior extremity about half as high as width of third antennal segment, higher behind; eye longer than high. Dorsocentrals 1+3; only one postsutural intra-alar present; scutellum elongate, rather pointed at apex, flat above, the disc setulose, with four subequal marginal bristles. Mid femur with a series of anterior bristles on apical half; mid tibia with the usual two long strong divergent preapical dorsal bristles; preapical dorsal bristles on other tibiae rather weak. Costal spines distinct, venation as in Text-figure 6.

Length, 4 mm.

Type, National Park, Sydney, N.S.W., 25.4.25.

Family Neottiophilidae.

This group has recently been elevated to family rank by Hendel. It may be distinguished from its allies by the presence of vibrissae, complete auxiliary vein, and the almost entire absence of the preapical dorsal tibial bristle.

I assign to the family the Australian genus *Tapeigaster* Macquart. Professor Bezzi has placed this genus in the Scatophagidae, but the second antennal segment is not longitudinally cleft at apex above, and the spiracles of the abdomen are not in the tergites, two characters that associate it definitely with the acalyptrate series. The developed vibrissae distinguish the group from Sciomyzidae and Dryomyzidae. The Helomyzidae have always quite evident widely spaced costal bristles, and a strong preapical dorsal bristle on tibiae.

PSEUDOLERIA PECTINATA (LOEW.).

A dark greyish species, with reddish legs. The male has the apex of the basal segment of fore tarsus produced slightly below.

Length, 4-5 mm.

Locality, Sydney, N.S.W., 23.9.24.

Genus HUTTONOMYIA Malloch.

This genus is a rather aberrant one, as the auxiliary vein is less clearly separated from first than is usually the case in this family. Some authors, no doubt, would incline to place the genus in Geomyzidae, but the preponderance of evidence points to its being a helomyzid. I erected the genus for the reception of two New Zealand species, *scutellata* Hutton, and *hudsoni* Hutton. The Australian species is readily distinguished from both of these by the conspicuously spotted wings.

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The genus *Neottiophila* occurs in the larval and pupal stages in the nests of birds, generally finches and sparrows. I found about a score of puparia in a single nest of the greenfinch in Scotland in the winter of 1908. It will be of interest to discover if *Tapeigaster* occurs in the larval stages in fungi as suggested by Bezzi.

I have before me three species of the genus, one apparently undescribed.

TAPEIGASTER FULVA, n. sp.

Male.—Shining fulvous. Ocellar spot, antennae, and arista, black; frons and face along each eye margin when seen from some angles, whitish dusted; palpi and proboscis yellow. Thoracic dorsum unicolorous fulvous, with a narrow dark mark along notopleural suture. Apices of femora, a ring near bases and another at apices of tibiae, and apical three or four tarsal segments, black. Wings yellowish hyaline; tegulae fuscous. Halteres fulvous.

Postverticals convergent, a rather strong incurved bristle laterad of the outer vertical on each side; arista sparsely pubescent; face normal. Thorax as in other species. Hypopygium large, without dorsal tubercles; fifth sternite with a deep V-shaped central cleft. Femora but little thickened and with only short hairs, the fore and mid pairs with short stout black spines at apices below, those on anteroventral surface forming shorter series than the posteroventrals, the hind femora with the spines present only on the anteroventral surface apically; tibiae without long hairs, preapical dorsal bristle microscopic.

Length, 5.5-7 mm.

Type and one paratype, Botany Bay, N.S.W. (H. Petersen).

TAPEIGASTER ANNULIPES Macquart.

I have before me a series of specimens of this species from the same locality and collector as the above species.

The legs are much longer haired and stouter than in fulva, and the male has a pair of stout tubercles on basal hypopygial tergite.

Family Muscidae.

Subfamily MUSCINAE.

Genus Gordonia, nov.

Generic characters.—Referable to the subfamily Muscinae. Though the lower calypter is rounded at apex it lies close to scutellum at base, and the fourth wingvein is obtusely bent a little beyond middle of its apical section, but the bend is very pronounced, the cell being as narrow at apex as at inner cross-vein. The general habitus is much as in *Graphomyia*, but the frons is reduced to a mere line, the prosternum and propleura are bare, the pteropleura is conspicuously haired, posterior spiracle large, with a few black setulae along its hind margin; hypopleura with some fine hairs on upper margin before spiracle, and on lower posterior angle; postalar declivity bare; scutellum haired on sides; presutural acrostichals absent. Abdomen broadly ovate, basal sternite hairy. First wing-vein setulose above on basal half of its apical section, third setulose from base to near apex both above and below; auxiliary vein with some fine hairs below basally as in *Morellia*; extreme basal sclerite of radius on underside setulose; bend of fourth vein obtuse, beyond middle. Mid tibia without a ventral bristle. Lower calypter rounded, its basal angle touching base of scutellum.

Genotype, the following species.

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Genotype, the following species.

GORDONIA FULVITHORAX, n. sp.

Male.—Fulvous yellow, shining. Dorsum of thorax with a conspicuous broad vitta in front of suture, and the sides anteriorly, whitish or golden dusted; pleura largely golden dusted. Abdomen darker than thorax, probably variable in colour, the fourth tergite golden dusted. Legs fulvous, tarsi darker. Wings yellowish hyaline. Calyptrae and halteres yellow.

Frons linear; arista plumose; third antennal segment about three times as long as second. Thorax with 2+4 dorsocentrals, the anterior three or four pairs short and weak; anterior postsutural intra-alar lacking; prealar present but short; sternopleurals 1+2. Abdomen with apical bristles on tergites short but distinct. Fore tibia with an anterodorsal series of short setulae and no posterior bristle; mid tibia with three long posterior and one or two short posterodorsal bristles; hind femur with short bristles on basal half of posteroventral and apical half of anteroventral surfaces; hind tibia with one short posterodorsal setula beyond middle, a series of setulae on basal half of anteroventral setulae.

Length, 7 mm.

Type, Gordonvale, N. Queensland.

In my key to the genera of Muscinae, published in Part v of this series of papers, this genus will run down to caption 6, section two. From *Morellia* and *Pyrellia*, the two genera contained in that group, it may readily be distinguished by the fulvous colour, the others being blue-black to metallic blue or green in colour, and both have the lower calypter broad and subtruncate at apex as against the rounded and narrower form in *Gordonia*.

The female is unknown to me.

Subfamily PHAONHNAE.

Genus PERONIA Robineau-Desvoidy.

This genus is undoubtedly the same as *Australophyra* Malloch, and the genotype of the latter, *analis* Macquart, is a synonym of *rostrata* Robineau-Desvoidy.

Genus RHYNCOMYDAEA Malloch.

In my key to the Australian genera of Muscidae I did not make allowance for two segregates of this genus, one with, and one without, pteropleural hairs. The one with the hairs running to section 24 in my key separates from the other two genera included therein by the presence of a strong facial carina, neither of the others having this. It appears that this group, with *carinata* Stein as genotype, should form a new genus, for which I propose the name *Hardyia* in honour of the well known Australian dipterist, G. H. Hardy.

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